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STATE OF SOUTH CAROLINA)
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(Caption of Case))
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In the Matter of)
)
Application of Duke Energy Carolinas, LLC for)
Approval of Decision to Incur Nuclear Generation)
Pre-Construction Costs)
)
)
)
)

BEFORE THE
PUBLIC SERVICE COMMISSION
OF SOUTH CAROLINA

COVER SHEET

DOCKET
NUMBER: 2007 - 440 - E

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Duke
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4-14-08
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Submitted by:	Robert Guild	**SC Bar Number:**	2358
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NOTE: The cover sheet and information contained herein neither replaces nor supplements the filing and service of pleadings or other papers as required by law. This form is required for use by the Public Service Commission of South Carolina for the purpose of docketing and must be filled out completely.

DOCKETING INFORMATION (Check all that apply)

☐ **Emergency Relief demanded in petition** ☐ **Request for item to be placed on Commission's Agenda expeditiously**

☐ **Other:**

INDUSTRY (Check one)

- ☒ Electric
- ☐ Electric/Gas
- ☐ Electric/Telecommunications
- ☐ Electric/Water
- ☐ Electric/Water/Telecom.
- ☐ Electric/Water/Sewer
- ☐ Gas
- ☐ Railroad
- ☐ Sewer
- ☐ Telecommunications
- ☐ Transportation
- ☐ Water
- ☐ Water/Sewer
- ☐ Administrative Matter
- ☐ Other:

NATURE OF ACTION (Check all that apply)

- ☐ Affidavit
- ☐ Agreement
- ☐ Answer
- ☐ Appellate Review
- ☐ Application
- ☐ Brief
- ☐ Certificate
- ☐ Comments
- ☐ Complaint
- ☐ Consent Order
- ☐ Discovery
- ☐ Exhibit
- ☐ Expedited Consideration
- ☐ Interconnection Agreement
- ☐ Interconnection Amendment
- ☐ Late-Filed Exhibit
- ☐ Letter
- ☐ Memorandum
- ☐ Motion
- ☐ Objection
- ☐ Petition
- ☐ Petition for Reconsideration
- ☐ Petition for Rulemaking
- ☐ Petition for Rule to Show Cause
- ☐ Petition to Intervene
- ☐ Petition to Intervene Out of Time
- ☒ Prefiled Testimony
- ☐ Promotion
- ☐ Proposed Order
- ☐ Protest
- ☐ Publisher's Affidavit
- ☐ Report
- ☐ Request
- ☐ Request for Certificatio
- ☐ Request for Investigatior
- ☐ Resale Agreement
- ☐ Resale Amendment
- ☐ Reservation Letter
- ☐ Response
- ☐ Response to Discovery
- ☐ Return to Petition
- ☐ Stipulation
- ☐ Subpoena
- ☐ Tariff
- ☐ Other:

19189I

ROBERT GUILD

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April 13, 2008

Mr. Charles Terreni
Chief Clerk
Public Service Commission of South Carolina
Synergy business Park, Saluda Building
101 Executive Center Drive
Columbia SC 29210

Re: Application of Duke Energy Carolinas, LLC for Approval of Decision to Incur Nuclear Generation Pre-Construction Costs
Docket No. 2007-440-E

Dear Mr. Terreni:

Enclosed please find for filing and consideration 25 copies of the Surrebuttal Testimony of Peter A. Bradford for Friends of the Earth, together with Certificate of Service reflecting service upon all parties of record. As agreed, I have transmitted today an electronic copy of the attached testimony to all counsel.

With kind regards I am

Sincerely,

Robert Guild

Encl.s
CC: All counsel

BEFORE
THE PUBLIC SERVICE COMMISSION OF
SOUTH CAROLINA
DOCKET NO. 2007-440-E

Application of Duke Energy Carolinas, LLC for)
Approval of Decision to Incur)
Nuclear Generation Pre-Construction Costs)

SURREBUTTAL TESTIMONY OF PETER A. BRADFORD
FOR FRIENDS OF THE EARTH

Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?

A. I am responding to the testimony of Julius Wright on behalf of Duke Energy Carolinas.

Q. PLEASE PROVIDE AN OVERVIEW OF YOUR RESPONSE.

A. Mr. Wright's testimony offers up two central propositions that contradict each other. On one hand, he asserts that this proceeding does nothing of consequence to shift risk to South Carolina customers while on the other hand he asserts that – if the Commission does not make the requested finding – South Carolina's opportunity to preserve the nuclear option for the 2018 time frame will be lost. He is understandably silent as to just why the nuclear option cannot be preserved if the Commission does not make the requested finding, but the answer is clear. It is because the finding requested in this proceeding relieves the investors and lenders of risks that they are unwilling to bear and does so by shifting those risks to the customers. If the Commission does not make the requested finding – which shifts much of the risk that the South Carolina share of the $230 million plus the long lead time item procurement costs to the customers – then the project will not go forward. So Mr. Wright is right about the second proposition but wrong about the first.

Q. WHY DO YOU BELIEVE THAT SHIFTING RISKS AWAY FROM INVESTORS AND LENDERS IS ESSENTIAL TO DUKE'S WILLINGNESS TO PROCEED WITH THE LEE STATION?

A. Because the financial community has been unwilling to assume the risks of new nuclear units since the late 1970s, after which three decades passed without the filing of a new construction permit request with the Nuclear Regulatory Commission. In recent years, Congress has shifted some of this risk to taxpayers in the form of incentives enacted in 2005 and 2007 and some states have indeed altered the balance between investors and customers as to some of the risks of power plant construction.

The nuclear industry has been quite forthcoming in stating in many forums that under existing law they would not be interested in building new nuclear units. For one flamboyant example, Thomas Capps, CEO of Dominion Energy said in 2005, before the passage of any of the aforementioned legislation, "We aren't going to build a nuclear plant anytime soon. Standard & Poor's and Moody's would have a heart attack. And my chief financial officer would, too" (NY Times, May 2, 2005). In addition, Duke CEO, Jim Rogers told North Carolina regulators in January, 2007 that getting permission from the state to recover development costs from customers if the plant were not built was essential to Duke's decision to proceed with a nuclear power plant.

In short, despite South Carolina's relatively successful nuclear history, Duke was unwilling to accept the investor risk that existed before the new statute

was enacted. It wanted a significant shift of risk to the customers, and the new law provides it.

It was, of course, the Legislature's prerogative to do this. However, the shift creates additional challenges if the Commission is to be sure that the customers are not exposed to large and open-ended liabilities, to be sure that new nuclear plants really are the best alternative and to be sure that investors are not compensated for bearing risks that have been transferred to the customers.

Q. IS MR. WRIGHT CORRECT THAT – WHATEVER THE EFFECT OF THE STAUTE AS A WHOLE – THE CURRENT PROCEEDING AND THE REQUESTED DETERMINATION DO NOT ACTUALLY CHANGE THE BALANCE OF RISK BETWEEN INVESTORS AND CUSTOMERS?

A. Mr. Wright's position on this issue is irreconcilable with the plain language of the new statute combined with Duke's request in this proceeding. Duke is asking the Commission "for approval of its decision to incur pre-construction costs of up to $230 million through December 31, 2009 for the Company's proposed William States Lee, III Nuclear Station". If the Commission makes the requested determination, the new law requires that

> Unless the record in a subsequent proceeding shows that individual items of cost were imprudently incurred, or that other decisions subsequent to the issuance of a project development order were imprudently made considering the information available to the utility at the time they were made, then all the preconstruction costs incurred for the potential nuclear plant must be properly included in the utility's plant-in-service and must be recoverable fully through rates in future proceedings under this chapter.

Even if the Lee station is subsequently cancelled – and approximately half of all of the construction permits ever issued by the NRC ended in cancellations, to say nothing of projects cancelled before construction permits were issued – the company is assured that no disallowances can be ordered on the ground that, for example, property must be "used and useful" if customers are to pay for it.

Instead, the new law essentially mandates that expenditures found to be prudent are also to be deemed used and useful. This alone is a significant risk shift attributable to the project development order under the new statutory regime, because customers can no longer challenge any part of South Carolina's share of the $230 million on the ground that investment is not used and useful, as they might have when Duke cancelled the six Cherokee and Perkins units in the early 1980s

In addition, as I demonstrated in my earlier testimony, the ongoing audits contemplated by the new statute cannot hope to find types of expensive imprudence that only reveal themselves years after the fact. The reason for this is not because the Commission lacks statutory authority to disallow imprudence. It is because the resource requirements of applying effective scrutiny against some types of imprudence in the year that it occurs are impossible to meet. The auditors would need resources comparable to those of the utility itself and – impossibly – they would need perfect foresight as to which of many thousands of decisions and practices were likely to produce failures years in the future. As I demonstrate below, the issue here is not Mr.

Wright's alleged misuse of hindsight; it is his presumption of regulatory foresight so perfect as to constitute prophecy.

Q. ISN'T THE "USED AND USEFUL" RULE AN ABERRATION THAT DOESN'T OFFER REAL PROTECTION TO CUSTOMERS IN THE TWENTY-FIRST CENTURY?

A. Not at all. The requirement that a utility rate base include only property that is "used and useful" is found in the laws of most states. In the 1980s across the U.S., large expenditures that were not found to have been imprudent were disallowed because they were not considered used and useful. This result was sustained in the 1989 Duquesne Light Company case, which was the last major U.S. Supreme Court review of the constitutionality of state utility rate setting practices. South Carolina's adoption of a statutory requirement that all prudent investment must be charged to the customers is therefore a fundamental shift away from the standard regulatory balance of risk.

In 1981 the D.C. Circuit Court of Appeals set forth the balance of risks produced by the used and useful principle:

> The general rule recognized by this court is that expenditure for an item may be included in a public utility's rate base only when the item is 'used and useful' in providing service: that is, current rate payers should bear only legitimate costs of providing service to them.[1]

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[1] NEPCO Municipal Rate Comm'n v. Fed. Energy Regulatory Comm'n, 668 F.2d 1327, 1333 (1981).

That Court later explained the balance of risks resulting from the interplay of the prudence principle and the used and useful principle in an en banc opinion by Judge Bork:

> Absent that sort of deep financial hardship described in Hope, there is no taking and hence no obligation to compensate, just because a prudent investment has failed and produced no return. [2]

In his concurring opinion in the same case, Judge Starr suggested that the prudent investment rule must be balanced with the used and useful rule in order to avoid infringing on the constitutional rights of customers:

> Requiring an investment to be prudent when made is one safeguard imposed by regulatory authorities upon the regulated business for benefit of ratepayers. As I see it, the "used and useful" rule is but another such safeguard. The prudence rule looks to the time of investment, whereas the "used and useful" rule looks toward a later time. The two principles are designed to assure that the ratepayers, whose property might otherwise of course be "taken" by regulatory authorities, will not necessarily be saddled with the results of management's defalcations or mistakes, or as a matter of simple justice, be required to pay for that which provides the ratepayers with no discernible benefit. [Footnote: The obvious danger in not examining both ends of the continuum -- both the prudence of the investment and whether the end result of the investment was used and useful -- is to build in pressures for building excess generating capacity. The "used and useful" rule operates as a restraining principle, reminding utility managers that they must assume the risk of economic forces working against an investment which is prudent at the time it is made].
>
> The two principles thus provide assurances that ill-guided management or management that simply proves in hindsight to have been wrong will not automatically be bailed out from conditions which government did not force upon it. That is, government forced upon the utility an obligation to provide service, but that obligation, as we have seen, is the quid pro quo for a protected area of service (and eminent domain

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[2] Jersey Central Power & Light Co. v. Fed. Energy Regulatory Comm'n, 810 F. 2d 1168, 1181 n.3 (1987).

> authority). What is fundamental is that government did not force upon the utility a specific course of action for achieving the mandated goal. Indeed, it would be curious if the Constitution protected utility investors entirely from business dangers experienced daily in the free market, the danger that managers will prove to have been overly sanguine about business prospects or the danger that a particular capital investment will not prove successful.....Yet, the prudent investment rule, in full vigor, would accomplish virtually that state of insulation, all in the guise of preventing government from effecting a taking without just compensation.
> For me, the prudent investment rule is, taken alone, too weighted for constitutional analysis in favor of the utility. It lacks balance. But so too, the "used and useful" rule, taken alone, is skewed heavily in favor of ratepayers. [footnote omitted] It also lacks balance....[3]

In defining all prudent investment as used and useful for allocating the cost of future nuclear units South Carolina has chosen the path that the courts have rejected. The state legislature had right to do this, but the regulatory process should understand that the traditional balancing of risk has changed in fundamental ways and that the Commission will have to proceed with a caution proportionate to the new risks that customers will assume under the new statutory framework.

Q. MR. WRIGHT SEEMS TO REJECT THE CONCEPT OF IMPRUDENCE THAT CANNOT BE DETECTED BY REGULATORY AUDITS IN THE YEAR THAT IT OCCURRED. CAN YOU PROVIDE EXAMPLES?

A. some types of imprudence can – as Mr. Wright suggests - be dealt with in annual reviews. A project suffering from poor management that has lost the

[3] Id. at 1190.

ability to control costs will produce symptoms that can lead to a relatively rapid regulatory response. Both customers and investors will be better of if such instances are dealt with as early as possible. Indeed, such regulatory oversight occurred under traditional regulation.

However, other types of imprudence do not produce prompt and visible cost consequences. Some of the most dramatic cost overruns in the history of nuclear construction could not possibly have been caught under the processes extolled by Mr. Wright. While the examples that I will give arose during the construction cycle, they illustrate the nature of the risk shift that accompanies the type of determination that the Commission is being asked to make in this proceeding, a determination that has very clear and binding effect for future rate decisions. I'll cite three examples, but there are many more.

First, at Diablo Canyon in California, a misunderstanding by a subcontractor over whether the two plants were identical or were mirror images of each resulted in many of the seismic restraints being installed incorrectly in one of the two units. The mistake was not discovered for several years after it had occurred. It caused years of delay and hundreds of millions of dollars in repair and replacement costs. It could not possibly have been detected in a timely way by the type of audit reviews contemplated by the South Carolina statute. Many expenditures arising from the mistake would have passed muster under these reviews. No fraud or concealment occurred. Only a prudence review informed by knowledge that a very costly set of events had

transpired could hope to sort out the prudent from the imprudent conduct and assure that customers did not pay for imprudence. The standard is not based on hindsight, but the regulator is guided to the conduct in need of review by the fact that a cost overrun has occurred.

Similarly, the Zimmer nuclear plant in Ohio was built under an inadequate quality control regimen that overlooked inadequate welding and allowed substandard materials to be put in place in the plant for several years. The Nuclear Regulatory Commission at first rejected allegations that the plant was being built improperly. The NRC has exclusive jurisdiction over nuclear safety, so South Carolina would have had difficulty investigating this issue on its own even if it had the expertise and the resources to do so. Eventually NRC reviews and an audit by the builders themselves discovered that – despite having spent $1.6 billion dollars – the owners could not complete the plant on economically sensible terms. It was converted to a coal plant in the mid-1980s. As at Diablo Canyon, many of the causes of its eventual problems went undetected for years. They would not have been detected before the costs were approved under a contemporaneous state PSC review scheme.

Finally, the Midland nuclear plant in Michigan also had serious quality control problems, the extent of which did not become clear until the diesel generator building began to sink into the improperly compacted soil while the plant was still under construction. The sinking not only revealed problems with construction techniques several years in the past; it also revealed

inadequacies in the quality assurance and quality control framework for the project as a whole. Despite the expenditure of more than $3 billion, the nuclear project was ultimately terminated and the site was converted to gas fired power.

Each of these examples shows a type of managerial shortcoming that occurred years before it was discovered. In none of the cases would reviews of the type that will occur for the Lee Station have been likely to uncover the shortcomings. The South Carolina Commission must undertake such reviews, and they will in some instances be beneficial. However, now – on the brink of a first step that will in itself commit the state to a path of greater risk for customers than they bore under the traditional framework – is the time for the commission to insist on accurate cost estimates and on the cost control and customer protection measures that I listed in my direct testimony.

Q. MR. WRIGHT DISPUTES THE CLAIM THAT DUKE HAS NOT FURNISHED A COST ESTIMATE IN THIS PROCEEDING. DO YOU ACCEPT THE PROPOSITION THAT WHATEVER INFORMATION WAS "INCLUDED IN THE COMPANY'S LAST INTEGRATED RESOURCE PLANNING PROCESS" CAN SERVE THIS PURPOSE.

A. No, I do not. The fact is that no Duke consumer today has effective notice of what the proposed units will cost. This behavior is in sharp contrast with current proceedings in Florida under a statute which Mr. Wright considers

comparable to the new South Carolina law. In Florida this year, both Florida Power and Light and Progress Energy included cost estimates and the associated rate impacts for their two nuclear power plant proposals in their prefiled testimony and in their petitions. These are public documents and have been widely reported. They describe total rate increases of more than 50% ascribable to the nuclear stations alone during the years that they are being built.

Keeping such crucial information secret undermines the integrity of the regulatory process and is fundamentally inconsistent with the "regulatory compact" that the utility industry asserted with such vehemence throughout the 1990s.

When - as in South Carolina - utilities are vertically integrated and recover their investments through a regulated rate base, customers have no choice among suppliers. Instead, they depend on regulatory processes in which they are entitled to participate to keep costs reasonable. One basic and essential element of a fair regulatory process is complete notice of what is under consideration in particular proceedings. An essential aspect of that notice is the magnitude of potential rate and bill increases. Without notice of that aspect, customers have diminished incentive to participate in such an expensive and complex proceeding. Without effective customer participation, the Commission is denied the benefit of public involvement, and the public is denied an effective voice in a matter of potentially fundamental economic importance to the state.

The secrecy can serve no competitive purpose because Duke will not be selling the output into a competitive power market. It can serve no real purpose in negotiations with nuclear power plant vendors because a range of estimates can be used for this proceeding as has been done in Florida. Indeed, findings by this commission as to cost containment or maximum allowable costs might strengthen Duke's hand in such negotiations.

In the "public convenience and necessity" hearings that were used to approve power plant construction in the 1970s, I am unaware of any cases in which the estimated cost of the plant was concealed from the public.

Q. MR. WRIGHT SUGGESTS AT SEVERAL POINTS THAT YOU ARE USING A PRUDENCE STANDARD THAT IMPROPERLY INVOLVES HINDSIGHT. IS THIS CORRECT?

A. No, it isn't. This part of Mr. Wright's testimony is perplexing. When asked directly if I was "urging a prudence review based on hindsight rather than one based on the information available at the time that the decision in question is being made", I responded that "Hindsight in the form of damaging rate impacts should be used to identify the decisions and practices that need to be reviewed, not to assess their prudence. Once these decisions and practices have been identified, they should indeed be reviewed in light of whether the company undertook them with the level of care appropriate to decisions of that magnitude in light of the information reasonably available at the time" (Bradford testimony, pp. 9, 10).

The National Regulatory Research Institute – the research affiliate of the National Association of Regulatory Utility Commissioners is clear that the traditional prudence review "is backward looking without applying hindsight to decisions made in the past". These words appeared in a useful volume written in 1985, a year when Mr. Wright and I were both involved in utility regulation (The Prudent Investment Test in the 1980s, p. 61).

I've probably voted on at least a hundred cases in which prudence was an issue, including a few involving nuclear need and construction decisions. I have never used a standard based on hindsight. As nearly as I can tell, Mr. Wright and I do not disagree as to this aspect of the prudence test.

Q: IN SUM, WHAT IS YOUR OPINION AS TO WHETHER DUKE HAS DEMONSTRATED "BY A PREPONDERANCE OF EVIDENCE THAT THE DECISION TO INCUR PRECONSTRUCTION COSTS FOR THE (WILLIAM STATES LEE NUCLEAR STATION) IS PRUDENT?"

A. Duke has not made such a demonstration. Nor can it do so without furnishing its best current cost estimate in a manner that informs the public of the likely rate and bill impacts associated with building the Lee Station. Such a demonstration should also include a full and candid disclosure of the uncertainties and risks associated with the cost estimates and the measures that will be taken to assure that the customers are not assigned a commitment to costs that are neither limited nor foreseeable.

BEFORE
THE PUBLIC SERVICE COMMISSION OF
SOUTH CAROLINA
DOCKET NO. 2007-440-E

In the Matter of	)	
	)	
Application of Duke Energy Carolinas, LLC for Approval of Decision to Incur Nuclear Generation Pre-Construction Costs	)	**Certificate of Service**

I hereby certify that on this date I served the above Surrebuttal Testimony of Peter A. Bradford by e-mail and by placing copies of same in the United States Mail, first-class postage prepaid, addressed to:

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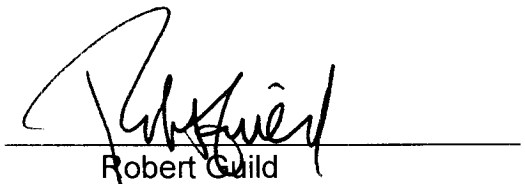

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